

first penalty assigning means for assigning a penalty that is based upon an attribute value to each item of phoneme data retrieved by said retrieval means; and

selection means for selecting, from the phoneme data retrieved by said retrieval means, and based upon the penalty assigned by said first penalty assigning means, phoneme data to be employed in synthesis of a speech waveform,

wherein the attribute values include power and phoneme duration of each item of phoneme data, and

said first penalty assigning means assigns a power-related penalty in such a manner that a small penalty is assigned to phoneme data whose power is close to an average value of the power, and assigns a phoneme-duration-related penalty in such a manner that a small penalty is assigned to phoneme data whose phoneme duration is close to an average value of the phoneme duration.

8.(amended) A speech synthesizing apparatus comprising:

storage means for storing plural items of phoneme data;

retrieval means for retrieving phoneme data, in accordance with given retrieval conditions, from the plural items of phoneme data stored in said storage means;

first penalty assigning means for assigning a penalty that is based upon an attribute value to each item of phoneme data retrieved by said retrieval means; and

selection means for selecting, from the phoneme data retrieved by said retrieval means, and based upon the penalty assigned by said first penalty assigning means, phoneme data to be employed in synthesis of a speech waveform,

wherein said first penalty assigning means:

sorts the items of phoneme data in order of decreasing power and assigns a power-related penalty on the basis of the order obtained by sorting, in such a manner that a small penalty is assigned to phoneme data whose power is close to an average value; and

sorts the items of phoneme data in order of decreasing phoneme duration and assigns a phoneme-duration-related penalty on the basis of the order obtained by sorting, in such a manner that a small penalty is assigned to phoneme data whose phoneme duration is close to an average value.

9.(amended) A speech synthesizing apparatus comprising:

storage means for storing plural items of phoneme data;

retrieval means for retrieving phoneme data, in accordance with given retrieval conditions, from the plural items of phoneme data stored in said storage means;

first penalty assigning means for assigning a penalty that is based upon an attribute value to each item of phoneme data retrieved by said retrieval means;

selection means for selecting, from the phoneme data retrieved by said retrieval means, and based upon the penalty assigned by said first penalty assigning means, phoneme data to be employed in synthesis of a speech waveform;

alternate retrieval means for retrieving phoneme data that satisfies some of the retrieval conditions in said retrieval means does not exist;

counting means for grouping phoneme data, which has been retrieved by said alternate retrieval means, on the basis of a phoneme environment, and counting the items of phoneme data on a per-group basis; and

second penalty assigning means for assigning a penalty on the basis of a count obtained by said counting means to the phoneme data retrieved by said alternate retrieval

means, this penalty being assigned in addition to the penalty assigned by said first penalty assigning means.

12.(amended) A speech synthesizing method comprising:

a storage step of storing plural items of phoneme data;

a retrieval step of retrieving phoneme data, in accordance with given search retrieval conditions, from the plural items of phoneme data stored at said storage step;

a first penalty assigning step of assigning a penalty that is based upon an attribute value to each item of phoneme data retrieved at said retrieval step; and

a selection step of selecting, from the phoneme data retrieved at said retrieval step, and based upon the penalty assigned at said penalty assigning step, phoneme data employed in synthesis of a speech waveform,

wherein the attribute values include power and phoneme duration of each item of phoneme data, and

in the first penalty assigning step, a power-related penalty is assigned in such a manner that a small penalty is assigned to phoneme data whose power is close to an average value of the power, and a phoneme-duration-related penalty is assigned in such a manner that a small penalty is assigned to phoneme data whose phoneme duration is close to an average value of the phoneme duration.

19.(amended) A speech synthesizing method comprising:

a storage step of storing plural items of phoneme data;

a retrieval step of retrieving phoneme data, in accordance with given search retrieval conditions, from the plural items of phoneme data stored at said storage step;

a first penalty assigning step of assigning a penalty that is based upon an attribute value to each item of phoneme data retrieved at said retrieval step where a penalty is assigned using power and phoneme duration of each item of phoneme data as the attribute value; and

a selection step of selecting, from the phoneme data retrieved at said retrieval step, and based upon the penalty assigned at said penalty assigning step, phoneme data employed in synthesis of a speech waveform,

wherein said first penalty assigning step:

sorts the items of phoneme data in order of decreasing power and assigns a power-related penalty on the basis of the order obtained by sorting, in such a manner that a small penalty is assigned to phoneme data whose power is close to an average value; and

sorts the items of phoneme data in order of decreasing phoneme duration and assigns a phoneme-duration-related penalty on the basis of the order obtained by sorting, in such a manner that a small penalty is assigned to phoneme data whose phoneme duration is close to an average value.

20.(amended) A speech synthesizing method comprising:

a storage step of storing plural items of phoneme data;

a retrieval step of retrieving phoneme data, in accordance with given search retrieval conditions, from the plural items of phoneme data stored at said storage step;

a first penalty assigning step of assigning a penalty that is based upon an attribute value to each item of phoneme data retrieved at said retrieval step;

a selection step of selecting, from the phoneme data retrieved at said retrieval step, and based upon the penalty assigned at said penalty assigning step, phoneme data employed in synthesis of a speech waveform;

an alternate retrieval step of retrieving phoneme data that satisfied some of the retrieval conditions in a case where phoneme data that conforms to the retrieval conditions at said retrieval step does not exist;

a counting step of grouping phoneme data, which has been retrieved at said alternate retrieval step, on the basis on a phoneme environment, and counting the items of phoneme data on a per-group basis; and

a second penalty assigning step of assigning a penalty on the basis of a count obtained at said counting step to the phoneme data retrieved at said alternate retrieval step, this penalty being assigned in addition to the penalty assigned at said first penalty assigning step.

23.(amended) A storage medium storing a control program for causing a computer to execute speech synthesis using phoneme data, said control program having:

code of a storage step of storing plural items of phoneme data;

code of a retrieval step of retrieving phoneme data, in accordance with given search retrieval conditions, from the plural items of phoneme data stored at said storage step;

code of a first penalty assigning step of assigning a penalty that is based upon an attribute value to each item of phoneme data retrieved at said retrieval step; and

code of a selection step of selection, from the phoneme data retrieved at said retrieval step, and based upon the penalty assigned at said first penalty assigning step, phoneme data employed in synthesis of a speech waveform,

wherein the attribute values include power and phoneme duration of each item of phoneme data, and

in the first penalty assigning step, a power-related penalty is assigned in such a manner that a small penalty is assigned to phoneme data whose power is close to an average

value of the power, and a phoneme-duration-related penalty is assigned in such a manner that a small penalty is assigned to phoneme data whose phoneme duration is close to an average value of the phoneme duration.

24.(amended) A storage medium storing a control program for causing a computer to execute speech synthesis using phoneme data, said control program having:

- code of a storage step of storing plural items of phoneme data;
- code of a retrieval step of retrieving phoneme data, in accordance with given search retrieval conditions, from the plural items of phoneme data stored at said storage step;
- code of a first penalty assigning step of assigning a penalty that is based upon an attribute value to each item of phoneme data retrieved at said retrieval step;
- code of a selection step of selection, from the phoneme data retrieved at said retrieval step, and based upon the penalty assigned at said first penalty assigning step, phoneme data employed in synthesis of a speech waveform;
- code of an alternate retrieval step of retrieving phoneme data that satisfies some of the conditions in a case where phoneme data that conforms to the retrieval conditions at said retrieval step does not exist;
- code of a counting step of grouping phoneme data, which has been retrieved at said alternate retrieval step, on the basis of a phoneme environment, and counting the items of phoneme data on a per-group basis; and
- code of a second penalty assigning step of assigning a penalty on the basis of a count obtained at said counting step to the phoneme data retrieved at said alternate retrieval step, this penalty being assigned in addition to the penalty assigned at said first penalty assigning step.